What is claimed is:

- 1. A method for producing propylene oxide, characterized in that peroxide is reacted with propylene in the presence of a titanosilicate catalyst which has an X-ray diffraction pattern
- 5 indicated below and is represented by the formula.

 $xTiO_2 \cdot (1-x)SiO_2$

wherein x denotes a numerical value of 0.0001 to 0.1.

X-ray diffraction patterns

(interplanar spacing of lattice d/Å)

- 10 13.2±0.6
 - 12.3±0.3
 - 11.0±0.3
 - 9.0 ± 0.3
 - 6.8±0.3
- 15 3.9±0.2
 - 3.5 ± 0.1
 - 3.4 ± 0.1
 - 2. A method for producing according to Claim 1, wherein the titanosilicate is a Ti-MWW precursor.
- 3. A method for producing according to Claim 1, wherein the titanosilicate is titanosilicate synthesized by a hydrothermal synthesis method.
 - 4. A method for producing according to Claim 1, wherein the peroxide is hydrogen peroxide.
- 25 5. A method for producing propylene oxide according to Claim
 - 4, wherein alcohol is used as a solvent.
 - 6. A method for producing propylene oxide according to Claim
 - 5, wherein tert-butanol is used as a solvent.